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(71) Applicant: **KOBE STEEL LTD**

(72) Inventor: **SHIMIZU KATSUHIKO**

(54) AUTOMATIC GAIN CONTROL SYSTEM

(57) Abstract:

PURPOSE: To avoid an inconvenient state where the control is turned into oscillations or the control accuracy is reduced, by controlling the loop gain within a fixed range by making use of a fact that the steady error is adversely proportional to the loop gain in a constant speed control system.

CONSTITUTION: The speed of a controlled system is calculated within a certain control section, and the deviation is calculated between the target value and the

reproduction value within the control section. Then the loop gain K_k is calculated within the control section from the obtained speed and deviation, and the maximum value K_{MAX} of the gain K_k . Then the actual loop gain K_l is changed by the value K_{MAX} . In other words, $K_l = R/eSS$ is satisfied, where R means the target position data and eSS is the steady error. Then it is always checked by using said equation whether or not the gain K_l is kept within a certain range. If the gain K_l gets out of said range, the gain is controlled within a certain range.

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